

# **Lower Stotenburg Coho Habitat Enhancement Project (Project ID: 1727764)**

## **2022**

### **Introduction:**

The Smith River Alliance will implement the Lower Stotenburg Coho Habitat Enhancement Project. The project will improve winter rearing habitat by restoring conifer populations that will improve large wood recruitment, a high priority recovery action for Smith River coho (NOAA 2014). The project will improve bank stability, shade, food inputs, and fish passage; increase native plant biodiversity, bank stability, channel complexity, and winter rearing habitat. Cattle exclusion fencing will protect the riparian habitat, improve water quality and ensure long-term protection of the habitat.

The Grantee shall not proceed with on the ground implementation until all necessary permits, consultations, and/or Notice to Proceed are secured. All habitat improvement(s) will follow techniques in the *California Salmonid Stream Habitat Restoration Manual*.

Does the project involve the construction of beaver analogs?

Yes  or No

Is the project located in a tidally influenced [California coastal zone](#)?

Yes  or No

### **Objectives:**

Project objectives: 1) Restore native riparian vegetation and remove invasive plants on 0.37 acres along 0.5 miles of Lower Stotenburg Creek; 2) Install 30 conifer trees to improve wood recruitment, bank stability, shade, and food inputs; 3) Install 411 riparian shrubs and willows to increase native biodiversity and bank stability; 4) Install 1,600 ft of cattle exclusion fencing to protect 3.5 acres of riparian habitat; 5) Treat four barriers and enhance in-channel habitat along 0.5 miles of stream.

### **Project Description:**

#### **Location:**

The project is located along 05. miles of Lower Stotenburg Creek, which is in northern Del Norte County on the Smith River Plain. Stotenburg Creek originates on the western slope of the Coast Range mountains and flows across the coastal plain before entering the right bank of the lower Smith River just downstream

from the Highway 101 bridge (Dr. Fine bridge). It is the first tributary to enter the Smith River after it exits its canyon and flows onto the coastal plain.

The project begins at the confluence of Stotenburg Creek and the Smith River, which is 5.9 miles upstream of the mouth of the Smith River, and extends upstream to just northwest of Cedar Lodge Lane. Stotenburg Creek enters the Smith River 0.8 miles upstream from the Del Norte County boat ramp. Project coordinates are: 41.889578 North, 124.14809099999999 West.

### **Project Set Up:**

Smith River Alliance (SRA) will provide project management, contract oversight, and administration. includes, but is not limited to, contract oversight, scheduling, invoicing, preparing progress reports for submittal to CDFW, and coordination with stakeholders and members of the project team.

The project will be completed by a team consisting of the Smith River Alliance (SRA), Stillwater Sciences (SWS), McCullough Construction Inc. (MCI), Samara Restoration (Samara), the California Conservation Corp (CCC) and the landowner.

SRA will provide project management, oversee contracting and grant reporting. SRA will lead ongoing landowner outreach and engagement. SRA will coordinate with the project team to oversee and assist as needed throughout the construction and revegetation effort. SRA will provide guidance and assist with pre and post project monitoring and reporting to evaluate project success. SRA Executive Director, Patty McCleary, will oversee contracting, invoices, reporting, and ensure the project accomplishes deliverables on schedule. SRA Program Director will oversee permitting, reporting, and biological monitoring as the Principal Investigator. SRA Program Manager will be responsible for project management, permitting, reporting, construction oversight, monitoring and maintenance. SRA Fisheries Lead will assist with data management, permit surveys, construction oversight, biological monitoring, and stream channel monitoring. SRA Landscaper will assist with collecting native plant cuttings, riparian planting, install temporary irrigation, and tree protection. Riparian maintenance will include 10 visits per year for 3 years.

SWS will conduct pre-construction consultation with the project team, botanical assessments for CEQA permitting, onsite construction oversight during implementation, post-construction topographic surveys at habitat enhancement sites to develop as-built plans, and assist SRA with project performance monitoring. The Project Geologist will oversee all aspects of the project for SWS and lead the construction oversight and topographic surveys, participate in stakeholder meetings, and support development of as-built plans. The Project Engineer will support construction oversight, participate in stakeholder meetings, and develop as-built plans. The Senior Engineer will support the Project

Engineer. The Botanists will conduct botanical assessments to support project permitting. The Botanical Assistant will support the Botanists with field and office tasks. The Staff Geologist will assist with survey processing, provide GIS services, and conduct UAS (drone) flights. The Spatial Analyst will provide additional GIS services. The GIS Technician will support the Spatial Analyst. The Engineer in Training (EIT) will assist with the topographic survey and AutoCAD drafting.

MCI will be the prime contractor for project construction. MCI will participate in pre-construction consultation with the project team, support permitting efforts, and perform all heavy equipment operations to construct project design elements (i.e., crossing removal/replacement, grubbing, excavations, large wood structures, BDA post driving, de-watering, erosion control, etc.).

Samara will provide all materials and labor for plant installation, temporary irrigation, temporary riparian fencing, riparian maintenance and replanting.

CCC will conduct vegetation removal and collection of live plant materials. CCC crews will complete manual removal of invasive plant materials, following mechanical removal by MCI. CCC will collect, bundle and soak live willow cuttings and other suitable plant materials for use in willow baffles and BDAs.

The landowner will install permanent cattle exclusion fencing. The placement, height and fencing materials will be selected to effectively deter cattle movement while also allowing wildlife passage following CDFW guidelines for wildlife friendly fencing (Paige 2012), NRCS recommendations for cattle exclusion along riparian areas, and production needs for the ranching operation.

### **Materials:**

SRA will purchase hand tools and cattle exclusion fencing and gates. Materials include: Shovels, rakes, hand pruners, McClouds, fence gates, barbed wire, wooden fence posts, t-posts, smooth wire, fence connectors, fence clips and staples.

All other materials will be purchased by subcontractors. MCI will purchase construction materials (i.e., wood, rock, crossing materials). Vegetation and temporary fencing materials will be purchased by Samara. SWS will provide survey equipment/materials (i.e., total station, RTK, and drone). CCC will provide tools for invasive plant removal, willow collection and installation.

Materials identified in the Basis of Design report and Final designs include:

- Large Wood (35 pieces) - for large wood structures and engineered log jam.

- Boulders (30 tons) - used for placing and anchoring structures and construct the channel around Crossing #1 and Crossing #2.
- Kernan Bridge (40ft length x 16ft width) - will be used for new structure at Crossing #1. Contech aluminum box culvert (45ft length x 23ft10in span x 10ft x 1in rise) - will be used for new structure at Crossing #4.
- Cattle exclusion fencing (1700 LF) and two gates - will be used for replacing removed fencing and new fencing along entire project reach.
- Cattle water line (300 LF) - will be used to replace line that will be removed as part of project construction.
- Vegetation (willow and species pallet) - will be used to construct willow baffles and implement riparian revegetation plan.
- Hand tools for invasive plant removal - McClouds, Picks, Shovels, Rakes.
- Tools for willow collection chainsaws, hand saws, and pruners.
- Mulch (60 bales) - used for BMPs around project area. Seed (45 lbs) - used for BMPs around project area and accelerate vegetative recruitment.
- Temporary wildlife fencing (1600 LF) - used to protect revegetation from herbivory.
- Temporary irrigation (1400 LF) - used to water revegetation areas outlined in the Design report.
- Robotic total station, RTK GPS, and UAS (drone) - will be used to survey during and post construction.

### **Tasks:**

Task 1 - Implementation Preparation, Permitting, and Environmental Compliance  
SRA will lead site visits with project contractors CCC and Samara prior to the start of project construction to discuss materials staging, and coordination with the main construction contractor for the instream and fish passage elements of the project. Project permitting and environmental compliance surveys will be completed prior to the start of the project. SRA will provide a copy of all surveys and permits to CDFW.

### **Task 2 - Project Construction/Implementation**

SRA will provide construction oversight for riparian restoration and coordination with the instream and fish passage implementation schedule. SRA will work with Samara, CCC, and the landowner to ensure all materials for construction are secured, and construction activities follow specifications in the final design plans and design report. SRA will provide oversight for riparian restoration, and will work with Samara Restoration to lead the revegetation aspects of the project. SRA will oversee CCC work. The main construction contractor MCI will mechanically remove invasive Himalayan blackberry, prepare sites for willow installation, and install posts for five beaver dam analog structures. CCC will manually remove blackberry roots and brush not removed by machines. CCC will collect and install willow and other brushy materials into the BDA and then backfilling with straw and mud to seal the upstream end. Willow and other

brush will be tightly woven into the first 1-1.5'. Approximately 3000' of brush and willow will be used. CCC will install 80 live willow stake into the rock slope protection at the crossing structures. These will be 4' long and 1-3" in diameter at the cut end. Willows will be cut and soaked in advance so they can be installed as the RSP is being placed. CCC will install 180 large willow cuttings into 9 trenches. The cuttings will be 2-4" diameter at the cut end and 12-16' long. Willow will be sourced onsite from existing willow thickets.

Riparian Re-vegetation will include the installation of 131 riparian trees and shrubs, 1600' of temporary fencing and 1400' of temporary irrigation. Samara Restoration will lead this task and furnish labor, materials, tools, equipment and incidentals to complete all planting shown on the Design Plans and relate work for re-vegetating work. Samara will grow all plants from within coastal Del Norte or Humboldt Counties. Container plants will be installed into amended planting holes and mulched. Samara will construct temporary fencing around five planting clusters using 5-foot tall galvanized horse fence and eight-foot t-posts placed every 10 feet. Samar will construct a temporary irrigation system for the eight riparian planting areas. Overhead sprinkler irrigation will be installed at each planting area to achieve irrigation cover for all plantings.

SWS will provide construction oversight for instream and fish passage components of the project. These activities are funded by cost share.

MCI will conduct all equipment operations necessary to implement instream and fish passage components. These activities are funded by cost share.

### Task 3 - Monitoring and Project Performance Evaluation

SRA will conduct seedling survival monitoring and inspect plants for caliper size, growth and vigor for a period of 3 years. As soon as planting is complete monitoring plots will be established and baseline data on plant vigor and health will be collected. Samara will furnish all labor, materials, tools and equipment to replant up to 50% of the plants. Replanting will take place in the fall of 2024. SRA will monitor invasive plant growth and the condition of the riparian fence for 3 years after construction. SRA complete plant maintenance activities and install additional tree protection if needed.

### **Deliverables:**

Final design plan and report.

Removal of invasive plants on 0.37 acres along 0.5 miles of Lower Stotenburg Creek; Installation of 30 conifer trees to improve wood recruitment, bank stability, shade, and food inputs; Installation of 411 riparian shrubs and willows to increase native biodiversity and bank stability; 1,600 ft of cattle exclusion fencing to protect 3.5 acres of riparian habitat; Treatment of four barriers and enhance in-channel habitat along 0.5 miles of stream.

### **Timelines:**

Task 1 - Implementation Preparation, Permitting, and Environmental Compliance

04/01/2023 to 07/30/2023

Task 2 - Project Construction/Implementation

04/01/2023 to 10/31/2026

Task 3 - Monitoring and Project Performance Evaluation

07/01/2023 to 04/01/2027

**Additional Requirements:**

The Permittee will not proceed with on the ground implementation until all necessary permits and consultations are secured. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

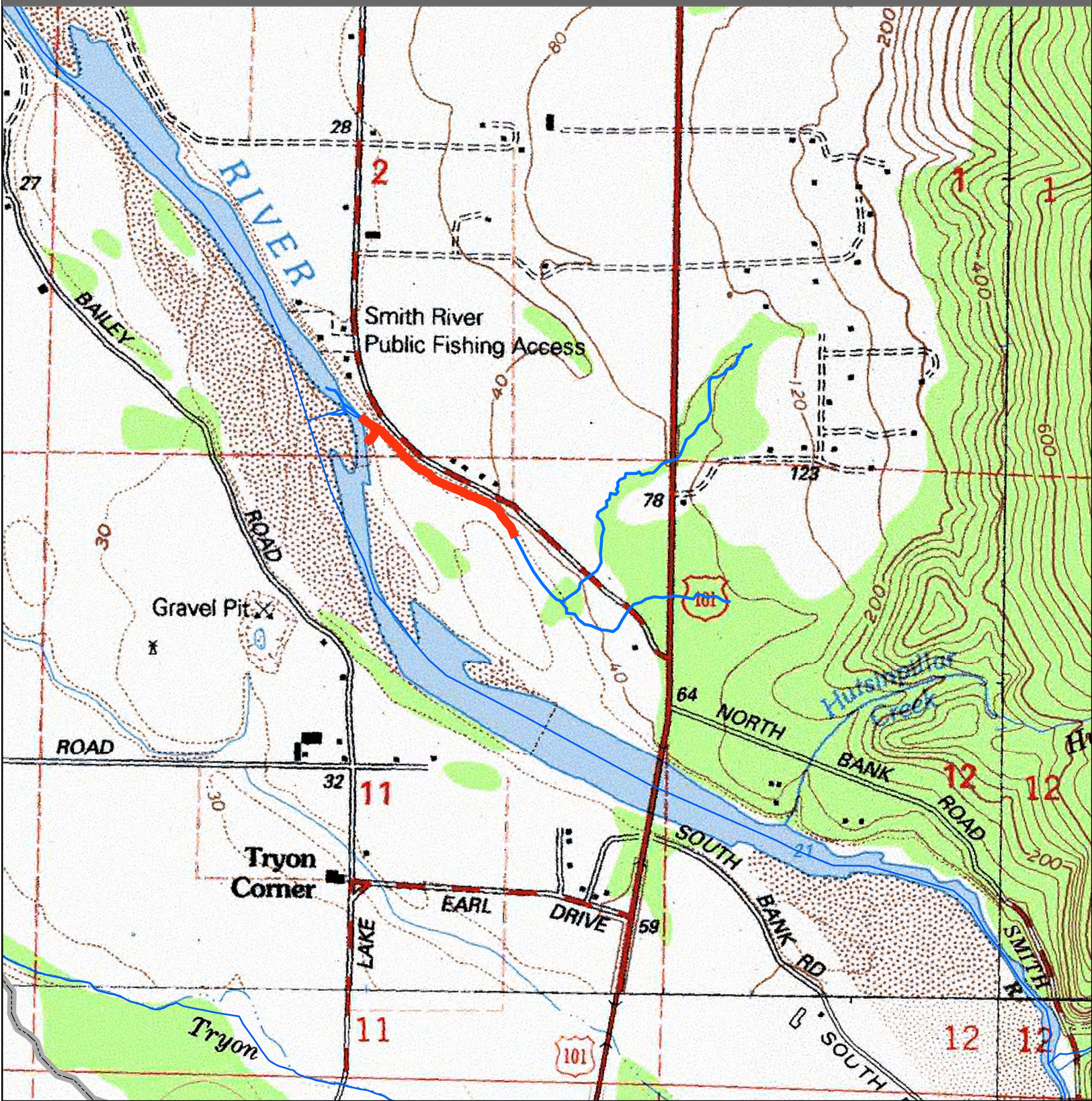
All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.




All habitat improvements will follow techniques described in the *California Salmonids Stream Habitat Restoration Manual*, Volume I and Volume II.

Planting of tree seedlings will take place after December 1 or when sufficient rainfall has occurred to insure the best chance of survival of the seedlings.

The Permittee/landowner will maintain the livestock exclusion fence(s) for a period of 10 years and totally exclude livestock from the riparian zone. Maintenance will include repair of fences to a level that will effectively exclude livestock from the livestock exclusion project area. Maintenance will not include damage that exceeds 50 percent of the fence due to natural disaster.



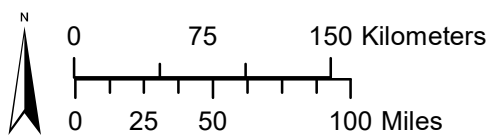
# Topographic Map

-  Proposed Project Reach
-  Smith River Anadromous Streams
-  Smith River Watershed

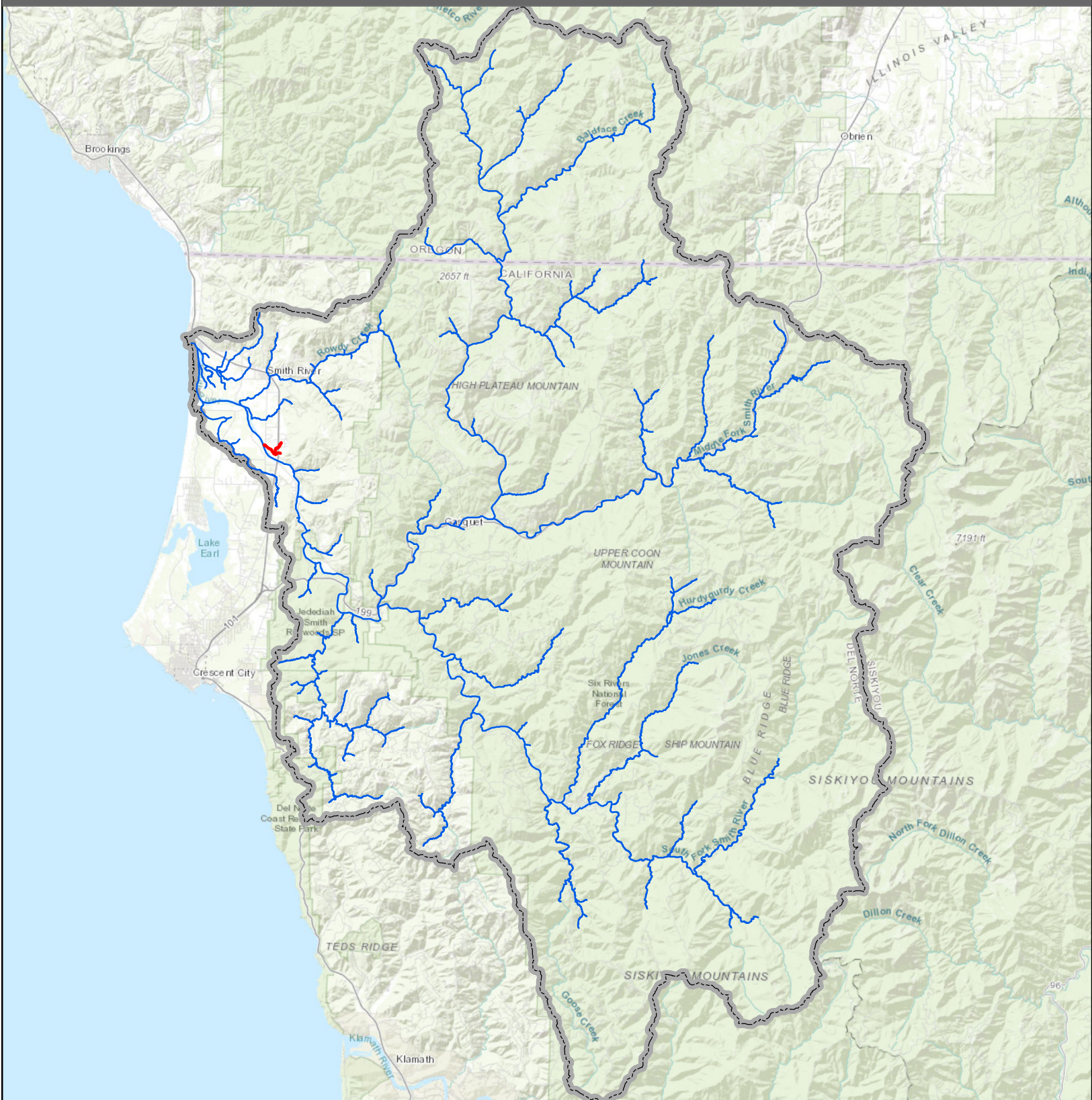


**SMITH RIVER ALLIANCE**




Map Sources:  
 Imagery: ESRI World Mapping Service  
 Watershed, streams: CDFW



# LOWER STOTENBURG CREEK COHO HABITAT ENHANCEMENT PROJECT



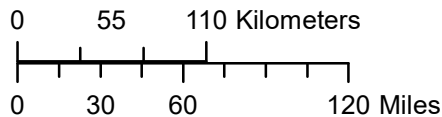
## Watershed Map

-  Stotenburg Creek
-  Smith River Anadromous Streams
-  Smith River Watershed



SMITH RIVER ALLIANCE

Map Sources:  
 Imagery: ESRI World Mapping Service  
 Watershed, streams: CDFW





CALIFORNIA DEPARTMENT OF  
**FISH and WILDLIFE** *RareFind*

**Query Summary:**

Quad **IS** (Mt. Emily (4212412) **OR** Fourth of July Creek (4212411) **OR** Smith River (4112482) **OR** High Divide (4112481) **OR** Crescent City (4112472) **OR** Hiouchi (4112471))

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**CNDDDB Element Query Results**

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
<i>Abronia umbellata</i> var. <i>breviflora</i>	pink sand-verbena	Dicots	PDNYC010N4	61	2	None	None	G4G5T2	S2	1B.1	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal dunes
<i>Anthoxanthum nitens</i> ssp. <i>nitens</i>	vanilla-grass	Monocots	PMPOA35041	6	2	None	None	G5T5	S2	2B.3	null	Meadow & seep, Wetland
<i>Arabis aculeolata</i>	Waldo rockcress	Dicots	PDBRA06010	8	1	None	None	G4	S2	2B.2	SB_BerrySB-Berry Seed Bank	Broadleaved upland forest, Lower montane coniferous forest, Ultramafic, Upper montane coniferous forest
<i>Arabis mcdonaldiana</i>	McDonald's rockcress	Dicots	PDBRA06150	27	7	Endangered	Endangered	G3	S3	1B.1	SB_BerrySB-Berry Seed Bank, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Lower montane coniferous forest, Ultramafic, Upper montane coniferous forest
<i>Ardea alba</i>	great egret	Birds	ABNGA04040	43	1	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
<i>Ardea herodias</i>	great blue heron	Birds	ABNGA04010	156	6	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
<i>Ascaphus truei</i>	Pacific tailed frog	Amphibians	AAABA01010	491	25	None	None	G4	S3S4	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Aquatic, Klamath/North coast flowing waters, Lower montane coniferous forest, North coast coniferous forest, Redwood, Riparian forest
<i>Asplenium trichomanes</i> ssp. <i>trichomanes</i>	maidenhair spleenwort	Ferns	PPASP021K2	1	1	None	None	G5T5	S1	2B.1	null	Lower montane coniferous forest
<i>Atractelmis wawona</i>	Wawona riffle beetle	Insects	IICOL58010	80	3	None	None	G3	S1S2	null	null	Aquatic
<i>Boechera koehleri</i>	Koehler's stipitate rockcress	Dicots	PDBRA060Z0	29	6	None	None	G3G4	S3	1B.3	USFS_S-Sensitive	Chaparral, Lower montane coniferous forest, Ultramafic
<i>Bombus caliginosus</i>	obscure bumble bee	Insects	IIHYM24380	181	4	None	None	G2G3	S1S2	null	IUCN_VU-Vulnerable	null
<i>Bombus occidentalis</i>	western bumble bee	Insects	IIHYM24250	306	2	None	None	G2G3	S1	null	USFS_S-Sensitive	null
<i>Brachyramphus marmoratus</i>	marbled murrelet	Birds	ABNNN06010	110	2	Threatened	Endangered	G3	S2	null	CDF_S-Sensitive, IUCN_EN-Endangered, NABCI_RWL-Red Watch List	Lower montane coniferous forest, Oldgrowth, Redwood
<i>Branta hutchinsii</i>	cackling (=Aleutian)	Birds	ABNJB05035	19	2	Delisted	None	G5T3	S3	null	CDFW_WL-Watch List	Artificial standing waters,

leucopareia	Canada) goose												Sacramento/San Joaquin standing waters, Valley & foothill grassland
Calamagrostis crassiglumis	Thurber's reed grass	Monocots	PMPOA17070	15	3	None	None	G3Q	S2	2B.1	null		Coastal scrub, Freshwater marsh, Marsh & swamp, Wetland
Calicium adpersum	spiral-spored gilded-head pin lichen	Lichens	NLT0005640	1	1	None	None	G3G4	S1	2B.2	USFS_S-Sensitive		Lower montane coniferous forest, North coast coniferous forest
Calystegia atriplicifolia ssp. buttensis	Butte County morning-glory	Dicots	PDCON04012	121	3	None	None	G5T3	S3	4.2	null		Chaparral, Lower montane coniferous forest, Valley & foothill grassland
Cardamine angulata	seaside bittercress	Dicots	PDBRA0K010	38	2	None	None	G4G5	S3	2B.1	null		Lower montane coniferous forest, North coast coniferous forest, Wetland
Cardamine nuttallii var. gemmata	yellow-tubered toothwort	Dicots	PDBRA0K0R3	17	8	None	None	G5T3Q	S2	3.3	null		Lower montane coniferous forest, North coast coniferous forest, Ultramafic
Carex arcta	northern clustered sedge	Monocots	PMCYP030X0	13	1	None	None	G5	S1	2B.2	IUCN_LC-Least Concern		Bog & fen, North coast coniferous forest, Wetland
Carex lenticularis var. limnophila	lagoon sedge	Monocots	PMCYP037A7	4	1	None	None	G5T5	S1	2B.2	null		Bog & fen, Marsh & swamp, North coast coniferous forest
Carex lyngbyei	Lyngbye's sedge	Monocots	PMCYP037Y0	37	1	None	None	G5	S3	2B.2	IUCN_LC-Least Concern		Marsh & swamp, Wetland
Carex praticola	northern meadow sedge	Monocots	PMCYP03B20	14	1	None	None	G5	S2	2B.2	null		Meadow & seep, Wetland
Carex serpenticola	serpentine sedge	Monocots	PMCYP03KM0	17	5	None	None	G4	S3	2B.3	null		Meadow & seep, Ultramafic, Wetland
Carex viridula ssp. viridula	green yellow sedge	Monocots	PMCYP03EM5	8	2	None	None	G5T5	S2	2B.3	null		Bog & fen, Marsh & swamp, North coast coniferous forest, Wetland
Cascadia nuttallii	Nuttall's saxifrage	Dicots	PDSAX0U160	2	2	None	None	G4?	S1	2B.1	null		North coast coniferous forest
Castilleja elata	Siskiyou paintbrush	Dicots	PDSCR0D213	36	10	None	None	G3	S2S3	2B.2	null		Bog & fen, Lower montane coniferous forest, Ultramafic, Wetland
Castilleja litoralis	Oregon coast paintbrush	Dicots	PDSCR0D012	44	2	None	None	G3	S3	2B.2	null		Coastal bluff scrub, Coastal dunes, Coastal scrub
Cerorhinca monocerata	rhinoceros auklet	Birds	ABNNN11010	10	2	None	None	G5	S3	null	CDFW_WL-Watch List, IUCN_LC-Least Concern		null
Charadrius nivosus nivosus	western snowy plover	Birds	ABNNB03031	138	2	Threatened	None	G3T3	S2	null	CDFW_SSC-Species of Special Concern, NABCI_RWL-Red Watch List		Great Basin standing waters, Sand shore, Wetland
Circus hudsonius	northern harrier	Birds	ABNKC11011	54	3	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern		Coastal scrub, Great Basin grassland, Marsh & swamp, Riparian scrub, Valley & foothill grassland, Wetland
Coastal Brackish Marsh	Coastal Brackish Marsh	Marsh	CTT52200CA	30	1	None	None	G2	S2.1	null	null		Marsh & swamp, Wetland
Coastal and Valley	Coastal and Valley	Marsh	CTT52410CA	60	1	None	None	G3	S2.1	null	null		Marsh & swamp, Wetland

Freshwater Marsh	Freshwater Marsh												
<i>Cochlearia groenlandica</i>	Greenland cochlearia	Dicots	PDBRA0S020	1	1	None	None	G4	S1	2B.3	null		Coastal bluff scrub
<i>Coenonympha tullia yontockett</i>	Yontockett satyr	Insects	IILEPN6035	1	1	None	None	G5T1T2	S1	null	null		Coastal dunes
<i>Coptis laciniata</i>	Oregon goldthread	Dicots	PDRAN0A020	122	4	None	None	G4?	S3?	4.2	null		Meadow & seep, North coast coniferous forest, Wetland
<i>Coturnicops noveboracensis</i>	yellow rail	Birds	ABNME01010	45	1	None	None	G4	S1S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, NABCI_RWL-Red Watch List, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern		Freshwater marsh, Meadow & seep
<i>Cypseloides niger</i>	black swift	Birds	ABNUA01010	46	1	None	None	G4	S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, NABCI_YWL-Yellow Watch List, USFWS_BCC-Birds of Conservation Concern		null
<i>Downingia willamettensis</i>	Cascade downingia	Dicots	PDCAM060E0	8	1	None	None	G4	S2	2B.2	null		Cismontane woodland, Valley & foothill grassland, Vernal pool
<i>Egretta thula</i>	snowy egret	Birds	ABNGA06030	20	1	None	None	G5	S4	null	IUCN_LC-Least Concern		Marsh & swamp, Meadow & seep, Riparian forest, Riparian woodland, Wetland
<i>Elanus leucurus</i>	white-tailed kite	Birds	ABNKC06010	184	1	None	None	G5	S3S4	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern		Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
<i>Empetrum nigrum</i>	black crowberry	Dicots	PDEMP03020	4	2	None	None	G5	S1?	2B.2	null		Coastal bluff scrub, Coastal prairie
<i>Empidonax traillii brewsteri</i>	little willow flycatcher	Birds	ABPAE33041	2	1	None	Endangered	G5T3T4	S1S2	null	null		Meadow & seep, Riparian woodland
<i>Emys marmorata</i>	western pond turtle	Reptiles	ARAAD02030	1404	2	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive		Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
<i>Erethizon dorsatum</i>	North American porcupine	Mammals	AMAFJ01010	523	34	None	None	G5	S3	null	IUCN_LC-Least Concern		Broadleaved upland forest, Cismontane woodland, Closed-cone coniferous forest, Lower montane coniferous forest, North coast coniferous forest, Upper montane coniferous forest

Eriogonum nudum var. paralinum	Del Norte buckwheat	Dicots	PDPGN08498	4	2	None	None	G5T2	S1	2B.2	null	Coastal bluff scrub, Coastal prairie
Eriogonum pendulum	Waldo wild buckwheat	Dicots	PDPGN084Q0	28	9	None	None	G4	S2S3	2B.2	null	Lower montane coniferous forest, Ultramafic, Upper montane coniferous forest
Erysimum concinnum	bluff wallflower	Dicots	PDBRA160E3	30	5	None	None	G3	S2	1B.2	BLM_S-Sensitive	Coastal bluff scrub, Coastal dunes, Coastal prairie
Erythronium hendersonii	Henderson's fawn lily	Monocots	PMLIL0U070	7	1	None	None	G4	S2	2B.3	USFS_S-Sensitive	Lower montane coniferous forest
Erythronium howellii	Howell's fawn lily	Monocots	PMLIL0U080	11	3	None	None	G3G4	S2	1B.3	null	Lower montane coniferous forest, North coast coniferous forest
Erythronium oregonum	giant fawn lily	Monocots	PMLIL0U0C0	37	2	None	None	G5	S2	2B.2	null	Cismontane woodland, Meadow & seep, Ultramafic
Eucyclogobius newberryi	tidewater goby	Fish	AFCQN04010	127	2	Endangered	None	G3	S3	null	AFS_EN-Endangered, IUCN_VU-Vulnerable	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters, South coast flowing waters
Eumetopias jubatus	Steller sea lion	Mammals	AMAJC03010	38	1	Delisted	None	G3	S2	null	IUCN_EN-Endangered, MMC_SSC-Species of Special Concern	Marine intertidal & splash zone communities, Protected deepwater coastal communities, Rock shore
Fissidens pauperculus	minute pocket moss	Bryophytes	NBMUS2W0U0	22	1	None	None	G3?	S2	1B.2	USFS_S-Sensitive	North coast coniferous forest, Redwood
Fratercula cirrhata	tufted puffin	Birds	ABNNN12010	17	2	None	None	G5	S1S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Protected deepwater coastal communities
Gentiana setigera	Mendocino gentian	Dicots	PDGEN060S0	11	3	None	None	G2	S2	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Lower montane coniferous forest, Meadow & seep, Ultramafic, Wetland
Gilia capitata ssp. pacifica	Pacific gilia	Dicots	PDPLM040B6	91	11	None	None	G5T3	S2	1B.2	null	Chaparral, Coastal bluff scrub, Coastal prairie, Valley & foothill grassland
Gilia millefoliata	dark-eyed gilia	Dicots	PDPLM04130	54	11	None	None	G2	S2	1B.2	BLM_S-Sensitive	Coastal dunes
Haliaeetus leucocephalus	bald eagle	Birds	ABNKC10010	332	1	Delisted	Endangered	G5	S3	null	BLM_S-Sensitive, CDF_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern, USFS_S-Sensitive	Lower montane coniferous forest, Oldgrowth
Hesperevax sparsiflora var. brevifolia	short-leaved evax	Dicots	PDASTE5011	72	6	None	None	G4T3	S3	1B.2	BLM_S-Sensitive	Coastal bluff scrub, Coastal dunes, Coastal prairie
Hydrobates furcatus	fork-tailed storm-petrel	Birds	ABNDC04010	8	2	None	None	G5	S1	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Protected deepwater coastal communities
Juga chacei	Chace juga	Mollusks	IMGASK4180	11	8	None	None	G1	S1	null	USFS_S-Sensitive	Aquatic, Klamath/North coast flowing waters
Kopsiopsis	small	Dicots	PDORO01010	21	2	None	None	G4?	S1S2	2B.3	null	North coast

hookeri	groundcone											coniferous forest
Lanx alta	highcap lanx	Mollusks	IMGASL7010	13	2	None	None	G2G3	S1S2	null	null	Aquatic
Lasionycteris noctivagans	silver-haired bat	Mammals	AMACC02010	139	1	None	None	G3G4	S3S4	null	IUCN_LC-Least Concern, WBWG_M-Medium Priority	Lower montane coniferous forest, Oldgrowth, Riparian forest
Lasthenia californica ssp. macrantha	perennial goldfields	Dicots	PDAST5L0C5	59	1	None	None	G3T2	S2	1B.2	BLM_S-Sensitive	Coastal bluff scrub, Coastal dunes, Coastal scrub
Lathyrus japonicus	seaside pea	Dicots	PDFAB250C0	24	5	None	None	G5	S2	2B.1	IUCN_LC-Least Concern	Coastal dunes
Lathyrus palustris	marsh pea	Dicots	PDFAB250P0	13	4	None	None	G5	S2	2B.2	null	Bog & fen, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marsh & swamp, North coast coniferous forest, Wetland
Lewisia oppositifolia	opposite-leaved lewisia	Dicots	PDPOR040B0	14	3	None	None	G3	S2	2B.2	USFS_S-Sensitive	Lower montane coniferous forest, Ultramafic
Lilium occidentale	western lily	Monocots	PMLIL1A0G0	16	4	Endangered	Endangered	G1G2	S1	1B.1	SB_BerrySB-Berry Seed Bank	Bog & fen, Coastal bluff scrub, Coastal prairie, Coastal scrub, Freshwater marsh, Marsh & swamp, North coast coniferous forest, Wetland
Limnephilus atercus	Fort Dick limnephilus caddisfly	Insects	IITRI15020	2	1	None	None	G3G4	S1	null	null	Aquatic, Klamath/North coast flowing waters, Klamath/North coast standing waters
Lysimachia europaea	arctic starflower	Dicots	PDPRI0A020	4	3	None	None	G5	S1	2B.2	null	Bog & fen, Meadow & seep, Wetland
Margaritifera falcata	western pearlshell	Mollusks	IMBIV27020	78	1	None	None	G4G5	S1S2	null	null	Aquatic
Martes caurina humboldtensis	Humboldt marten	Mammals	AMAJF01012	44	1	Threatened	Endangered	G4G5T1	S1	null	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	North coast coniferous forest, Oldgrowth, Redwood
Mitellastra caulescens	leafy-stemmed mitrewort	Dicots	PDSAX0N020	21	1	None	None	G5	S4	4.2	null	Broadleaved upland forest, Lower montane coniferous forest, Meadow & seep, North coast coniferous forest
Monadenia fidelis pronotis	rocky coast Pacific sideband	Mollusks	IMGASC7032	1	1	None	None	G4G5T1	S1	null	null	Coastal bluff scrub
Moneses uniflora	woodnymph	Dicots	PDPYR02010	7	1	None	None	G5	S2	2B.2	null	Broadleaved upland forest, North coast coniferous forest
Monotropa uniflora	ghost-pipe	Dicots	PDMON03030	115	51	None	None	G5	S2	2B.2	null	Broadleaved upland forest, North coast coniferous forest
Montia howellii	Howell's montia	Dicots	PDPOR05070	123	1	None	None	G3G4	S2	2B.2	null	Meadow & seep, North coast coniferous forest, Vernal pool, Wetland
Myotis yumanensis	Yuma myotis	Mammals	AMACC01020	265	2	None	None	G5	S4	null	BLM_S-Sensitive, IUCN_LC-Least Concern, WBWG_LM-Low-Medium Priority	Lower montane coniferous forest, Riparian forest, Riparian woodland, Upper montane coniferous forest
Nannopterum	double-	Birds	ABNFD01020	39	1	None	None	G5	S4	null	CDFW_WL-Watch	Riparian forest,

auritum	crested cormorant										List, IUCN_LC-Least Concern	Riparian scrub, Riparian woodland
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	Marsh	CTT52110CA	53	1	None	None	G3	S3.2	null	null	Marsh & swamp, Wetland
Nycticorax nycticorax	black-crowned night heron	Birds	ABNGA11010	37	1	None	None	G5	S4	null	IUCN_LC-Least Concern	Marsh & swamp, Riparian forest, Riparian woodland, Wetland
Oenothera wolfii	Wolf's evening-primrose	Dicots	PDONA0C1K0	29	9	None	None	G2	S1	1B.1	SB_BerrySB-Berry Seed Bank	Coastal bluff scrub, Coastal dunes, Coastal prairie
Oncorhynchus clarkii clarkii	coast cutthroat trout	Fish	AFCHA0208A	45	7	None	None	G5T4	S3	null	AFS_VU-Vulnerable, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Aquatic, Klamath/North coast flowing waters
Oncorhynchus mykiss irideus pop. 36	summer-run steelhead trout	Fish	AFCHA0213B	20	1	None	Candidate Endangered	G5T4Q	S2	null	CDFW_SSC-Species of Special Concern	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters
Packera bolanderi var. bolanderi	seacoast ragwort	Dicots	PDAST8H0H1	72	14	None	None	G4T4	S2S3	2B.2	null	Coastal scrub, North coast coniferous forest
Pandion haliaetus	osprey	Birds	ABNKC01010	504	2	None	None	G5	S4	null	CDF_S-Sensitive, CDFW_WL-Watch List, IUCN_LC-Least Concern	Riparian forest
Pekania pennanti	Fisher	Mammals	AMAJF01020	555	1	None	None	G5	S2S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	North coast coniferous forest, Oldgrowth, Riparian forest
Phacelia argentea	sand dune phacelia	Dicots	PDHYD0C070	16	16	Proposed Threatened	None	G2	S1	1B.1	SB_BerrySB-Berry Seed Bank	Coastal dunes
Pinguicula macroceras	horned butterwort	Dicots	PDLNT01040	26	7	None	None	G4	S2	2B.2	IUCN_LC-Least Concern	Bog & fen, Ultramafic, Wetland
Piperia candida	white-flowered rein orchid	Monocots	PMORC1X050	222	1	None	None	G3?	S3	1B.2	null	Broadleaved upland forest, Lower montane coniferous forest, North coast coniferous forest, Ultramafic
Plethodon elongatus	Del Norte salamander	Amphibians	AAAAD12050	151	7	None	None	G4	S3	null	CDFW_WL-Watch List, IUCN_NT-Near Threatened	Oldgrowth
Polemonium carneum	Oregon polemonium	Dicots	PDPLM0E050	16	2	None	None	G3G4	S2	2B.2	null	Coastal prairie, Coastal scrub, Lower montane coniferous forest
Polites mardon	mardon skipper	Insects	IILEP66030	2	2	None	None	G2	S1	null	USFS_S-Sensitive	North coast coniferous forest
Pomatiopsis chacei	marsh walker	Mollusks	IMGASJ9030	6	2	None	None	G1	S1	null	null	null
Potamogeton foliosus ssp. fibrillosus	fibrous pondweed	Monocots	PMPOP030B1	1	1	None	None	G5T2T4	S1S2	2B.3	null	Marsh & swamp, Wetland
Pyrocoma racemosa var. congesta	Del Norte pyrocoma	Dicots	PDASTDT0F4	13	8	None	None	G5T4	S2	2B.3	null	Chaparral, Lower montane coniferous forest, Ultramafic, Wetland
Ramalina thrausta	angel's hair lichen	Lichens	NLLEC3S340	21	6	None	None	G5?	S2S3	2B.1	null	North coast coniferous forest
Rana aurora	northern red-legged frog	Amphibians	AAABH01021	292	40	None	None	G4	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Klamath/North coast flowing waters, Riparian forest, Riparian woodland
Rana boylei	foothill yellow-legged frog	Amphibians	AAABH01050	2478	21	None	Endangered	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-	Aquatic, Chaparral, Cismontane woodland,

												Near Threatened, USFS_S-Sensitive	Coastal scrub, Klamath/North coast flowing waters, Lower montane coniferous forest, Meadow & seep, Riparian forest, Riparian woodland, Sacramento/San Joaquin flowing waters
Rhyacotriton variegatus	southern torrent salamander	Amphibians	AAAAJ01020	416	25	None	None	G3G4	S2S3	null		CDFW_SSC- Species of Special Concern, IUCN_LC- Least Concern, USFS_S-Sensitive	Lower montane coniferous forest, Oldgrowth, Redwood, Riparian forest
Riparia riparia	bank swallow	Birds	ABPAU08010	298	4	None	Threatened	G5	S2	null		BLM_S-Sensitive, IUCN_LC-Least Concern	Riparian scrub, Riparian woodland
Romanzoffia tracyi	Tracy's romanzoffia	Dicots	PDHYD0E030	9	3	None	None	G4	S2	2B.3	null		Coastal bluff scrub, Coastal scrub
Sabulina howellii	Howell's sandwort	Dicots	PDCAR0G0F0	24	15	None	None	G4	S3	1B.3	null		Chaparral, Lower montane coniferous forest, Ultramafic
Sagittaria sanfordii	Sanford's arrowhead	Monocots	PMALI040Q0	143	1	None	None	G3	S3	1B.2		BLM_S-Sensitive	Marsh & swamp, Wetland
Sanguisorba officinalis	great burnet	Dicots	PDR0S1L060	22	5	None	None	G5?	S2	2B.2	null		Bog & fen, Broadleaved upland forest, Marsh & swamp, Meadow & seep, North coast coniferous forest, Riparian forest, Ultramafic, Wetland
Scaphinotus behrensi	Behrens' snail-eating beetle	Insects	IICOL4L070	4	1	None	None	G2G4	S2S4	null	null		North coast coniferous forest
Sedum patens	Smith River stonecrop	Dicots	PDCRA0A250	6	1	None	None	G2	S2	1B.2	null		Lower montane coniferous forest, Talus slope, Ultramafic
Sidalcea malachroides	maple-leaved checkerbloom	Dicots	PDMAL110E0	136	1	None	None	G3	S3	4.2	null		Broadleaved upland forest, Coastal prairie, Coastal scrub, North coast coniferous forest, Riparian forest
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	Dicots	PDMAL110F9	60	5	None	None	G5T2	S2	1B.2	null		Coastal bluff scrub, Coastal prairie, North coast coniferous forest
Sidalcea oregana ssp. eximia	coast checkerbloom	Dicots	PDMAL110K9	19	4	None	None	G5T1	S1	1B.2	null		Lower montane coniferous forest, Meadow & seep, North coast coniferous forest, Wetland
Silene hookeri	Hooker's catchfly	Dicots	PDCAR0U2M0	31	1	None	None	G4	S2	2B.2	null		Chaparral, Cismontane woodland, Lower montane coniferous forest, Ultramafic
Silene serpentinicola	serpentine catchfly	Dicots	PDCAR0U2B0	55	27	None	None	G3	S3	1B.2		USFS_S-Sensitive	Chaparral, Lower montane coniferous forest, Ultramafic
Speyeria zerene hippolyta	Oregon silverspot butterfly	Insects	IILEPJ6087	3	3	Threatened	None	G5T1	S1	null	null		Coastal dunes
Streptanthus howellii	Howell's jewelflower	Dicots	PDBRA2G0N0	28	14	None	None	G2G3	S2	1B.2		USFS_S-Sensitive	Lower montane coniferous

												forest, Ultramafic
<i>Sulcaria spiralifera</i>	twisted horsehair lichen	Lichens	NLT0042560	18	2	None	None	G3G4	S2	1B.2	BLM_S-Sensitive	Coastal dunes, North coast coniferous forest
<i>Thaleichthys pacificus</i>	eulachon	Fish	AFCHB04010	10	1	Threatened	None	G5	S2	null	null	Aquatic, Klamath/North coast flowing waters
<i>Usnea longissima</i>	Methuselah's beard lichen	Lichens	NLLEC5P420	206	3	None	None	G4	S4	4.2	BLM_S-Sensitive	Broadleaved upland forest, North coast coniferous forest, Oldgrowth, Redwood
<i>Vaccinium scoparium</i>	little-leaved huckleberry	Dicots	PDERI180Y0	27	2	None	None	G5	S3	2B.2	null	Subalpine coniferous forest
<i>Viola langsdorffii</i>	Langsdorf's violet	Dicots	PDVIO04100	2	2	None	None	G4	S1	2B.1	null	Bog & fen, Wetland
<i>Viola palustris</i>	alpine marsh violet	Dicots	PDVIO041G0	10	4	None	None	G5	S1S2	2B.2	null	Bog & fen, Coastal scrub, Wetland
<i>Viola primulifolia</i> ssp. <i>occidentalis</i>	western white bog violet	Dicots	PDVIO040Y2	19	6	None	None	G5T2	S2	1B.2	USFS_S-Sensitive	Bog & fen, Marsh & swamp, Ultramafic, Wetland